

# **ABSTRACT**

A vital signs detection system has

a terminal capable of being connected to detecting means of detecting vital signs;

a program server of storing a program and/or data to operate the detecting means; and

an information server of communicating with the terminal; wherein:

when an operation switch of the detecting means is turned ON, the terminal transmits information including the type of the detecting means to the program server;

on receiving the information, the program server transmits a predetermined program and/or data corresponding to the information to the terminal according to the information;

the detecting means operates according to the predetermined program and/or data received by the terminal, and thereby detects vital signs; and

the terminal transmits the vital signs detected by the detecting means to the information server.

Figure 1

1 Health control apparatus

Figure 2

401 Vital data

402 Programs

403 Parameters / initial setting data

400 Storage region in storing means

401a Measurement data region

401b Processing data region

Figure 3

S201 Sensing of vital signs

S202 A/D conversion of data

S203 Storing of vital data temporarily in time series

S204 Transmission

S205 Reception

S206 Storing in storing means

S207 Processing of data

S208 Displaying of processing result

Figure 4

1 Network

Figure 5

- 1 Health control apparatus (consumption calorimeter)
- 141 Frequency processing means
- 142 Heart rate measuring means
- 143 Calorie consumption calculating means

Figure 6

- 128 Inputting means

Figure 7

- 129 Notifying means

Figure 8

- 143 Calorie consumption calculating means
  - 151 Calculation section
  - 152 Accumulation section
  - 153 Subtraction section
  - 154 Achievement time calculation section
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- 1 Data
  - 2 Heart rate
  - 3 Calorie consumption
  - 4 Calorie consumption, accumulated value
  - 5 Accumulated value
  - 6 Accumulated value and target value

- 7      Remained calorie consumption
- 8      Calorie consumption
- 9      Remained calorie consumption
- 10     Time of achievement

Figure 9

- 127    Server
- 302    Health control instructor (doctor)
- 301    User (patient)
- 1      Modification and/or change
- 2      Exercise menu
- 3      Exercise indices
- 4      Health control indices
- 303    Health control program
- 304    User chart
- 305    Measurement data
- 306    Warning button
- 5      Measurement data

Figure 10

- 1      Start
- 2      No
- S331   User chart
- S332   Extracting of short-term program
- S333   Download to health control apparatus

- S334 Exercise and measurement
- S335 Upload of measurement data
- S336 Renewal of measurement data
- S337 Within predicted range?
- S338 Adding of warning button

Figure 11

- 1 Exercise indices, health control indices, and exercise menu for next duration
- 2 Exercise indices, health control indices, and exercise menu
- 3 User ID
- 4 Download
- 305 Measurement data in past
- 320 User ID table / User ID
- 321 Personal data

Figure 13

- 1 Consumption calorimeter main body
- 11 Heart rate detecting means
- 12 Calorie consumption calculating means
- 16 Body temperature detecting means
- 17 Body motion detecting means
- 18 Correlation relation storing means
- 20 Notifying means

Figure 14

- 1      Program server
- 2      Information server

Figure 16

- 1601   Power ON
- 1602   Transmission of target person ID to information server
- 1603   Reception of target person ID
- 1604   Searching of target person chart
- 1605   Extracting of vital signs item to be monitored
- 1606   Transmission of vital signs item to program server
- 1607   Reception of vital signs item
- 1608   Extracting of program and/or data
- 1609   Transmission of program and/or data to terminal
- 1610   Reception of program and/or data
- 1611   Notifying of vital signs item to be monitored to target  
person
- 1612   Setting-up of program and/or data
- 1613   Operation of program according to operation data
- 1614   Acquiring of vital signs
- 1615   Transmission of vital signs to information server
- 1616   Reception of vital signs
- 1617   Renewal of contents of chart
- 1      End

Figure 17

1        Start of operation  
1700    Ready

Figure 18

1801    Health control apparatus carries out inspection  
1802    Inspection item judgment server managing means judges  
inspection result  
1803    Is inspection to be continued?  
1804    Inspection is terminated  
1805    Is inspection item to be changed?  
1806    Inspection item is changed  
1807    Is inspection method to be changed?  
1808    Inspection is continued by same method  
1809    Inspection method is changed

%% End